

Module 9a: Other Compliance/Noncompliance Salmonella Sampling

Goal To provide instructions to in-plant inspection personnel for determining an establishment's compliance with HACCP, SSOP, Salmonella and other nonrelated HACCP and Pathogen Reduction requirements.

Objectives: After completing this module portion, participants will be able to:

1. State who will conduct *Salmonella* testing.
2. List the species that must be tested.
3. State at what point in the process to sample each product.
4. Describe the aseptic sampling method.
5. List the sampling sites for beef carcasses.
6. List the sampling sites for swine carcasses.
7. List the sampling sites for turkey carcasses.
8. Describe the sampling method for poultry carcasses.
9. Describe the sampling method for ground product.
10. Describe the sample storage and shipping.

Note:

The *Salmonella* Analysis: Collecting Raw Meat and Poultry Product Samples guidebook details the content of the “*Salmonella* Sampling” video shown in this segment. For more information, consult the guidebook.

Salmonella Verification, Documentation, and Enforcement

You've just seen in detail how to take a sample for *Salmonella* analysis for the Pathogen Reduction initiative. That act of sampling is by far your most critical and involved role for monitoring *Salmonella*. The example of counting back or ahead five sample units is just that, only an example. You may have some other way of selecting a unit that satisfies random sampling. Also, the types of small buffered peptone water containers that will be supplied by the labs may vary depending upon the supplier. The important issue is that only ten milliliters are used. The sampling methods shown need to be strictly followed to assure uniformity in sample results.

Now let's take a minute to review the performance standards for *Salmonella* that we presented in Session I.

Performance standards are regulatory requirements, enforceable by FSIS. When HACCP is implemented, establishments must consistently meet the pathogen reduction performance standards for *Salmonella* as a condition of maintaining inspection.

The *Salmonella* standards in the regulations are based on a national baseline study conducted by the Agency. FSIS believes all establishments can meet, or do better than, the current baseline prevalence for *Salmonella* contamination by implementing process controls that prevent, and by using food safety technologies and procedures to remove, contamination.

The number of positive test results will be compared to the maximum number of positive results permitted by regulation for that product. *Salmonella* test results only report the presence or absence of the organism, not the number of organisms. Any positive test result indicates *Salmonella* contamination is present.

SALMONELLA PERFORMANCE STANDARDS

Class of product	Performance Standard (percent positive for Salmonella)	Number of samples tested (n)	Maximum number of positives to achieve Standard (c)
Steers/heifers	1.0	82	1
Cows/bulls	2.7	58	2
Ground beef	7.5	53	5
Hogs	8.7	55	6
Fresh pork sausages	N/A	N/A	N/A
Broilers	20.0	51	12
Ground chicken	44.6	53	26
Ground turkey	49.9	53	29
Turkeys	N/A	N/A	N/A

As I said, the performance standards specify a maximum number of positive test results (c) permitted in a specified number of samples (n) for each species and category of raw product (first column).

Recall how to use this table from the earlier Session. Let's consider ground beef this time. The performance standard is set at 7.5%. To meet the standard, an establishment can have no more than five (5) positive sample results out of every 53 ground beef samples. Six (6) positives within 53 samples signal a failure to meet the standard.

You may have noticed that the numbers in the last two columns do not equal the percentage stated in the second column. The focus of the PR/HACCP Rule is on **process** rather than **product** performance. The series of sample results is only an indicator of process performance, and the results are affected by unavoidable sampling variation. The Agency took this variation into account in setting limits.

The pathogen reduction performance standard applies to establishments, not to individual products. If the establishment fails to meet the standard, it must take corrective actions to lower the incidence of *Salmonella* on all the product of that type it produces. The effectiveness of the corrective action is then measured by subsequent testing. So if in the next 53 samples of ground beef the plant had five (5) or less positives, then we would assume that the corrective action was sufficient. But if the standard was again exceeded, we would require the establishment to reassess its HACCP plan and take appropriate corrective actions.

And let's say that on the third consecutive series of 53 samples, the establishment again failed to meet the performance standard, then we assume that they cannot maintain sanitary conditions. This then constitutes an SSOP **and** a HACCP systems failure, but the HACCP system is where we focus our actions. FSIS would suspend inspection of the process associated with the HACCP system. For example, if the failed performance standard was for chicken carcasses, then we withhold inspection of the slaughter process, since that's the process that failed. The District Office will provide instructions for further actions.

Let's discuss now what is required of you, the sample collector, when it comes to verification, documentation and enforcement issues after the sample has been analyzed.

As the in-plant inspection personnel required to sample for *Salmonella*, you must collect, process, and mail the sample as directed to determine compliance with the regulatory standard. This language comes directly from the ISP for Procedure code 05A03.

You will not be receiving the sample results, nor will you have to track the results to determine how many samples you've taken.

The Office of Public Health and Science will keep the results and the Sampling Coordination team sends them to the District Office on a cycle-by-cycle basis. If the test results indicate that a performance standard was exceeded before the end of the cycle, the Sampling Coordination Team will notify the District Office immediately. The District Office will get the *Salmonella* test cycle results. The Office of Public Health and Science will make the determination about compliance with the regulatory requirements. When the establishment has failed a pathogen reduction performance standard, the District Office will notify you and give you directions on the course of action. Each failure is handled on a case-by-case basis from the District Office.

So you see, regarding *Salmonella* sampling for the Pathogen Reduction/HACCP Rule, your key role is sampling. If any additional action is needed on your part, the District Office will give you specific instructions at that time.